

Luffing Jib Raising Procedure

2250 SERIES 2

**For Combinations Requiring Outside Assist
Luffing Jib No. 133 or No. 133A On
Boom No. 44 with Heavy Lift Top**

Recommended boom and luffing jib raising and lowering procedure using jack-knife method with outside assist

2250 SERIES 2 equipped with 209,200 Lb. (94 890 kg) crane counterweight and 60,000 Lb. (27 220 kg) carbody counterweight requires outside assist when raising and lowering boom and luffing jib combinations shown in outside assist table.

WARNING: User must exercise extreme caution when raising and lowering these boom and luffing jib combinations because their length exceeds that which may be raised without outside assistance. During raising and lowering boom and luffing jib combinations, it is very important to follow instructions carefully. A successful operation depends entirely on personnel and outside assist equipment performing the task. Danger tag **No. 147841** shall be mounted in crane cab in clear view of operator, warning that boom and luffing jib combinations may not be raised or lowered without outside assist.

Crane Preparation

A. Boom and Luffing Jib Rigging

Refer to luffing jib rigging **No. 194186** and **No. 192086** for make-up of inserts, straps, pendants, and miscellaneous parts, etc. Lower boom point requires only the middle 3 sheaves to be used. All other sheaves must be removed from lower boom point.

B. Position and Block Crawlers

Lift must be made over front of blocked crawlers. Machine to be in a level position on a firm and uniformly supporting surface with gantry up and front tumbler properly blocked so that centerline of idler tumbler becomes tipping fulcrum. Travel drive must be to rear of machine.

C. Attach Lifting Bracket and Hook

Attach lifting bracket to main strut at location shown on luffing jib rigging **No. 194186**. Attach hook from assist crane to lifting bracket.

D. Assist Crane

Assist crane must carry entire load of boom and luffing jib and have capacities of at least those shown in outside assist table when raising or lowering boom and luffing jib. Assist crane should operate at approximately 75 - 80 degree boom angle. Recommended assist crane boom lengths may vary depending on type and placement of crane and skill of operator.

E. Assist Crane Position

To raise or lower boom and luffing jib, assist crane should be in a level position on a firm uniformly supporting surface with crawlers parallel to boom and luffing jib. Assist crane upperworks should face in direction of 2250 SERIES 2 boom top. Assist crane should hoist and crawl simultaneously in order to keep hoist line vertical. Also, hoist line of assist crane must not put any side load into main strut.

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Raising and lowering boom and luffing jib

A. Raising Boom and Luffing Jib

WARNING: To prevent tipping it is of utmost importance to assist boom and luffing jib to angle shown in table. 2250 SERIES 2 will be within 85% of machine moment over front of blocked crawlers at this angle.

2250 SERIES 2 boom hoist must lift only to extent of maintaining a slight sag in boom rigging as boom and luffing jib are being raised slowly and cautiously with assist crane. Slowly raise boom with assist crane until jib stop strut is just clear of ground. Unpin jib stop inner strut from retracted position and attach jib stop pendants. Slowly raise boom with assist crane until jib stop strut is fully extended and pins engaged (approximately 168 degree boom to luffing jib angle).

Boom is then raised with assist crane while jib point roller is allowed to roll on ground. Tension should be applied to luffing jib hoist to keep jib strut off luffing jib during boom raising.

Continue to raise boom until boom to luffing jib angle reaches 60 degrees or luffing jib hangs vertical. Tighten luffing jib suspension with luffing jib hoist. Continue to raise boom and luffing jib simultaneously with assist crane until boom angle is at or above angle shown in table. Tighten boom rigging using 2250 SERIES 2 boom hoist. Unhook assist crane. Boom and luffing jib are then raised together using 2250 SERIES 2 boom hoist until boom reaches desired operating angle. Luffing jib radius must be within capacity chart before swinging over side of machine.

Load blocks, hook and weight ball, etc. must remain on ground until boom and luffing jib are raised to maximum radius shown on capacity chart for which there is a capacity adequate to handle them.

CAUTION: Do not under any condition allow boom to luffing jib angle to become less than 60 degrees.

B. Lowering Boom and Luffing Jib

WARNING: To prevent tipping it is of utmost importance that the boom not be lowered beyond angle shown in table until assist crane has taken over.

Set load blocks, hook and weight ball on ground before lowering boom and luffing jib to ground.

With boom at 83 degrees or greater, lower luffing jib until boom to luffing jib angle reaches 60 degrees. Lower boom with 2250 SERIES 2 boom hoist until boom angle is at or slightly above angle shown in table. Luffing jib point rollers may contact ground on some combinations.

Attach hook from assist crane to lifting bracket when outside assist angle is reached. Lower boom (with assist crane on some combinations) until luffing jib point rollers contact ground. 2250 SERIES 2 boom hoist must pay out wire rope to maintain a slight sag in boom rigging when assist crane is attached as boom and luffing jib are lowered slowly and cautiously. If luffing jib is hanging vertical when jib point rollers contact ground, raise luffing jib a few degrees forward of vertical with luffing jib hoist.

Continue to lower boom with assist crane while luffing jib point roller rolls along ground. Keep enough tension in luffing jib hoist to keep jib strut off luffing jib. Stop lowering boom when jib stop pendants start to go into tension (approximately 168 degree boom to luffing jib angle). Disengage jib stop strut pins and lower boom to retract jib stop inner strut. Pin strut in retracted position and unpin jib stop pendants. Rotate jib stop struts forward and lower boom and luffing jib to ground. Unhook assist crane.

CAUTION: Do not under any condition allow boom to luffing jib angle to become less than 60 degrees.



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Maximum Boom And Luffing Jib Lengths Lifted With Assist Over Front of Blocked Crawlers Using Jack-Knife Method											
Boom Length		Luffing Jib Length - Ft. (m)									
		110 (33.5)	120 (36.6)	130 (39.6)	140 (42.7)	150 (45.7)	160 (48.8)	170 (51.8)	180 (54.9)	190 (57.9)	200 (61.0)
Feet	Meters	Angle To Which Boom Must Be Assisted - Degrees									
210	64.0	---	---	---	---	---	15	15	15	20	20
220	67.1	40*	40*	40*	20	25	25	25	25	30	30
230	70.1	45	45	45	45	50	50	50	55	55	55
240	73.2	45	50	50	50	55	55	55	55	55	60
250	76.2	50	50	55	55	55	55	55	60	60	60

Load blocks, hook and weight ball on ground until boom and luffing jib are erected to maximum radius shown on capacity chart which has adequate capacity to handle them.

* Luffing jib point rollers lift off ground requiring higher assist angle.

Assist Crane Requirements					
Boom Length		Capacity Required of Assist Crane		Recommended Assist Crane Boom Length	
Feet	Meters	Lbs.	Kilograms	Feet	Meters
210	64.0	54,000	24 490	140	42.7
220	67.1	67,000	30 390	210	64.0
230	70.1	94,000	42 640	250	76.2
240	73.2	102,000	46 270	270	82.3
250	76.2	102,000	46 270	280	85.3